

**Notice of Allowability**

Application No.

10/796,320

Examiner

Michael A. Lyons

Applicant(s)

FAILES, MICHAEL

Art Unit

2877

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 27 July 2006.
2. ☒ The allowed claim(s) is/are 1-12.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

### **EXAMINER'S AMENDMENT AND STATEMENT OF REASONS FOR ALLOWANCE**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Paul Herbert on August 9, 2006.

The application has been amended as follows:

Claims 1 and 10-12 have been amended as follows. Claims 1, 10, and 12 are merely amended as to matters of form, to eliminate unnecessary periods from the body of the claim.

1. A scanning interferometer comprising:

i[.]) a light source;

ii[.]) a fiber optic assembly comprising:

a[.]) polarization maintaining fiber having P and S modes;

b[.]) splitting means for splitting the P and S modes of said fiber wherein said S mode propagates in one arm in one polarization axis and said P mode propagates in the other arm in the other polarization axis;

c[.]) an optical path length modulator; and

d[.]) a reference mirror.

10. A scanning interferometer comprising:

i[.]) a light source;

ii[.]) a fiber optic assembly comprising:

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a[.]) polarization maintaining fiber having P and S modes;

b[.]) splitting means for splitting the P and S modes of said fiber wherein said S mode propagates in one arm in one polarization axis and said P mode propagates in the other arm in the other polarization axis;

c[.]) an optical path length modulator; and

d[.]) a reference mirror;

where said splitting means is a coupler having four polarization maintaining fiber ports, one of which is orientated with birefringent axes orthogonal to the other three ports.

11. A scanning interferometer comprising:

i[.]) a light source comprising a super luminescent diode or an edge emitting light emitting diode;

ii[.]) a fiber optic assembly comprising:

a[.]) polarization maintaining fiber [having fast and slow birefringent axes supporting fast and slow propagation modes] having P and S modes;

b[.]) [a polarization splitter] splitting means for splitting the P and S modes of said fiber wherein said S mode propagates in one arm in one polarization axis and said P mode propagates in the other arm in the other polarization axis;

c[.]) an optical length modulator comprising a piezo-electric actuator and a fiber stretching device having a low polarization mode dispersion;

d[.]) a reference mirror;

e[.]) an analyzer; and

f[.]) a detector.

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12. A scanning interferometer comprising;

i[.]) a light source;

ii[.]) a fiber optic assembly comprising:

a[.]) polarization maintaining fiber having P and S modes;

b[.]) splitting means for splitting the P and S modes of said fiber wherein said S mode propagates in one arm in one polarization axis and said P mode propagates in the other arm in the other polarization axis;

c[.]) an optical path length modulator; and

d[.]) a reference mirror;

where said splitting means is a coupler having four polarization maintaining fiber ports, one or two of which is orientated with birefringent axes orthogonal to the other three ports.

***Allowable Subject Matter***

**Claims 1-12 are allowed in view of the prior art.**

The following is an examiner's statement of reasons for allowance:

As to claims 1 and 11, the prior art of record, taken either alone or in combination, fails to disclose or render obvious a scanning interferometer comprising a polarization maintaining fiber having P and S modes, and splitting means that splits the P and S modes of the fiber and the light contained therein, where the S mode propagates in one arm in one polarization axis, and the P mode propagates in the other arm in the other polarization axis, in combination with the other explicitly claimed limitations of the above claims.

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As to claims 10 and 12, the prior art of record, taken either alone or in combination, fails to disclose or render obvious a scanning interferometer comprising a polarization maintaining fiber having P and S modes, and splitting means that splits the P and S modes of the fiber and the light contained therein, where the S mode propagates in one arm in one polarization axis, and the P mode propagates in the other arm in the other polarization axis, with the splitting means being a coupler having four polarization maintaining fiber ports, one (claim 10) or two (as per claim 12) of which is orientated with birefringent axes orthogonal to the other three ports, in combination with the rest of the limitations of the above claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Lyons whose telephone number is 571-272-2420. The examiner can normally be reached on Monday through Friday.

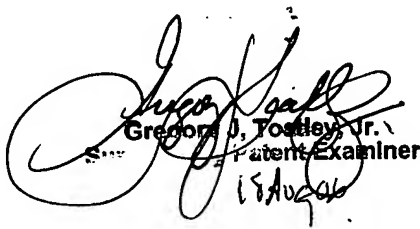
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley can be reached on 571-272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MAL

August 14, 2006

  
Gregory J. Tostley Jr.  
Patent Examiner  
18 AUG 2006